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Shin Aoki

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EXAMINER

YEH, EUENG NAN

ART UNIT

PAPER NUMBER

2624

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/783,743	AOKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eueng-nan Yeh	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>Feb 20, 2004</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

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3. Claim 32 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 32 defines a computer recordable medium embodying functional descriptive material. However, the claim does not define a computer-readable medium or computer-readable memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. The examiner suggests amending the claim(s) to embody the program on "computer-readable medium" or equivalent; assuming the specification does NOT define the computer readable medium as a "signal", "carrier wave", or "transmission medium" which are deemed non-statutory (refer to "note" below). Any amendment to the claim should be commensurate with its corresponding disclosure.

Note:

A "signal" (or equivalent) embodying functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or tangible material.

Should the full scope of the claim as properly read in light of the disclosure encompass non-statutory subject matter such as a "signal", the claim as a whole would

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be non-statutory. In the case where the specification defines the computer readable medium or memory as statutory tangible products such as a hard drive, ROM, RAM, etc, as well as a non-statutory entity such as a "signal", "carrier wave", or "transmission medium", the examiner suggests amending the claim to include the disclosed tangible computer readable media, while at the same time excluding the intangible media such as signals, carrier waves, etc.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 to 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Sano et al. (US 2003/0068089 A1).

Regarding claims 1, 8, and 15, Sano discloses: reproducing a moving image from an encoded data stream encoded in accordance with a coding method ("The

image data to be processed by the embodiment of the present invention is not only of a simple still image but also of a motion picture or animation in a form of successive still images, or the like" in paragraph 81, line 10; "A code sequence ... may preferably be any type of one distributed widely based on a standard like JPEG2000 (ISO/IEC FCD 15444-1), or Motion-JPEG2000 (ISO/IEC FCD 15444-3) ..." in paragraph 84, line 1), the encoded data stream being reconfigurable without decoding ("According to the present invention, as a given code sequence to be decompressed is modified in a various manner before being decompressed" in paragraph 19, line 1), comprising:

a reproduction apparatus to reproduce the moving image (as depicted in figure 37 or figure 7, numeral 20 is the reproduction apparatus; "according to the embodiment of the present invention, it is possible to reproduce a smooth motion without frame omission. Furthermore, it becomes also possible to search the contents by viewing a thumbnail motion picture" in paragraph 85, line 5);

a transmission apparatus to transmit the encoded data stream to the reproduction apparatus (as depicted in figure 7, numeral 40 is the transmission apparatus which transmits encoded data stream from #41 to the reproduction apparatus #20);

the transmission apparatus being connected to the reproduction apparatus via a communication channel (as depicted in figure 7, the communication channel is the link between transmission apparatus, such as #41 #42, and reproduction apparatus, such as #21 #29; also numerals 30 and 50 are communication networks);

the reproduction apparatus further comprises:

a setting unit (as depicted in figure 7, numeral 29) to set a reproduction condition in response to a user's operation ("the control unit 29 (*figure 7*) controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54" in paragraph 105, line 18, where #54 is the user's input reproduction condition), the reproduction condition being transmitted to the transmission apparatus (as depicted in figure 7, transmission from #29 with reproduction condition #54 to the transmission apparatus #40);

the transmission apparatus further comprises:

a determination unit (figure 7, numeral 42) to determine a reconfiguration method of the encoded data stream based on the reproduction condition received from the reproduction apparatus (figure 7, numeral 42 determines "a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46" in paragraph 103, line 12, to determine the reconfiguration method based on the reproduction condition #54 received from the setting unit #29 of the reproduction apparatus #20);

a reconfiguration unit stream (as depicted in figure 7, numeral 41) to reconfigure the encoded data ("... 41 (*figure 7*) which creates a code sequence ..." in paragraph 103, line 9) to be transmitted to the reproduction apparatus (as depicted in figure 7, numeral 20) based on the reconfiguration method determined by the determination unit (figure 7, numeral 42).

Regarding claims 8 and 15, the determination unit can be a part of the reproduction apparatus (as depicted in figure 37, numeral 20 is the reproduction apparatus, numeral

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211 is the CPU: "... the CPU 211 performs based on this animation program realizes various functions of the code sequence creation device 40" in paragraph 110, line 5 where the code sequence creation device can be the determination unit #42).

Regarding claim 15, the reconfiguration unit can be a part of the reproduction apparatus (as depicted in figure 37, numeral 20 is the reproduction apparatus, numeral 211 is the CPU: "... the CPU 211 performs based on this animation program realizes various functions of the code sequence creation device 40" in paragraph 110, line 5 where the code sequence creation device can be the reconfiguration unit #41).

Regarding claims 2, 9, and 16, the reproduction condition set by the setting unit includes at least one of a display size, a display range, image quality, a color component, and a frame rate (as depicted in figure 7, numeral 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale).

Regarding claims 3, 10, and 17, the setting unit adjusts the display size included in the reproduction condition in response to the user's operation for changing a window size in which the moving image is displayed (as depicted in figure 8, the image size #61 will be adjusted to numeral 64 in response to the user's operation for changing a window size to #63).



Regarding claims 4, 11, and 18, the setting unit changes the display size included in the reproduction condition in response to the user's operation for selecting a window in which the moving image is displayed (as depicted in figure 8, the image can be displayed with various reduction rate in response to various display size. As discussed in paragraphs 113 and 114, a displayed image can change to a new display size once selected.)

Regarding claims 5, 12, and 19, the setting unit adjusts the display range included in the reproduction condition in response to the user's operation for panning and tilting (as depicted in figure 7, numeral 54 which allows user to input specified area and perform animation. Thus, allows the moving range to be displayed from right to left, i.e. panning, and up and down, i.e. tilting).

Regarding claims 6, 13, and 20, the setting unit adjusts the display range included in the reproduction condition in response to the user's operation for zooming (as depicted in figure 7, numeral 54 which allows user to input specified area and perform animation. Thus, allows the moving range to be displayed expanding and reducing, i.e. zooming).

Regarding claims 7, 14, and 21, the setting unit adjusts the image quality and the frame rate in the reproduction condition in response to the user's operation for adjusting a balance between the image quality and the frame rate (the code sequence modified to

reduce the code size before transmission: "According to the present invention, as a given code sequence to be decompressed is modified in a various manner before being decompressed ..." in paragraph 19, line 1; "... the code sequence is sent to a remote device via communications network or the like, by thus reducing the code mount beforehand, it becomes possible to effectively reduce the load to be borne by the communications facilities and also to effectively reduce the traffic in the communications network" in paragraph 19, line 10. Thus, the setting unit will balance out the quality and the frame rate to effectively reduce the traffic in the communications network).

Regarding claim 22, a reproduction comprising:

a setting unit (as depicted in figure 7, numeral 29) to set a reproduction condition in response to a user's operation ("the control unit 29 (*figure 7*) controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54" in paragraph 105, line 18, where #54 is the user's input reproduction condition),

wherein the reproduction apparatus (figure 7, numeral 20) transmits the reproduction condition set by the setting unit to the transmission apparatus (as depicted in figure 7, the reproduction condition #54 set by the setting unit #29 was transmitted to transmission apparatus #40), and

receives an encoded data stream reconfigured by a reconfiguration method determined in response to the transmitted reproduction condition from the transmission apparatus (as depicted in figure 7, the reproduction apparatus #20 receives an encoded data

stream from the transmission apparatus #40. The encoded data stream is reconfigured by the reconfiguration method #43, #44, #45, and #46 and the reconfiguration method is in response to the transmitted reproduction condition #54).

Regarding claim 23, a reproduction apparatus comprising:

a setting unit (as depicted in figure 7, numeral 29) to set a reproduction condition in response to a user's operation ("the control unit 29 (*figure 7*) controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54" in paragraph 105, line 18, where #54 is the user's input reproduction condition); and

a determination unit (as depicted in figure 37, numeral 20 is the reproduction apparatus, numeral 211 is the CPU: "... the CPU 211 performs based on this animation program realizes various functions of the code sequence creation device 40" in paragraph 110, line 5; the code sequence creation device can be the determination unit #42) to determine a reconfiguration method (the reconfiguration method includes "a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46" in paragraph 103, line 12) for reconfiguring the encoded data stream based on the reproduction condition set by the setting unit (as depicted in figure 7, the encoded data stream is reconfigured by the reconfiguration method #43, #44, #45, and #46 and the reconfiguration method is based on the reproduction condition #54 set by the setting unit #29),

wherein the reproduction apparatus (figure 7, numeral 20 or figure 37 numerals 20 and 211) transmits the reconfiguration method (figure 7, numerals 43, 44, 45, and 46) determined by the determination unit (discussed above) to the transmission apparatus (figure 7, numeral 40), and receives an encoded data stream (figure 7, from numeral 41 to numeral 21) reconfigured by the transmitted reconfiguration method (figure 7, numerals 43, 44, 45, and 46) from the transmission apparatus (figure 7, numeral 40).

Regarding claim 24, a transmission apparatus for transmitting an encoded data stream compressed in accordance with JPEG 2000 to a reproduction apparatus connected thereto via a communication channel, comprising:  
a determination unit to determine a reconfiguration method for reconfiguring the encoded data stream based on a reproduction condition transmitted from the reproduction apparatus (as discussed in claim 1 that figure 7, numeral 42 is the determine unit: "includes a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46" in paragraph 103, line 12, to determine the reconfiguration method based on the reproduction condition from the setting unit #29 of the reproduction apparatus #20); and  
a reconfiguration unit to reconfigure the encoded data stream (as depicted in figure 7, numeral 41 is the reconfiguration unit: "... 41 (*figure 7*) which creates a code sequence ..." in paragraph 103, line 9) to be transmitted to the reproduction apparatus (figure 7,

numeral 20) based on the reconfiguration method determined by the determination unit (figure 7, numeral 42).

Regarding claim 25, a method of reproducing a moving image encoded into an encoded data stream in accordance with JPEG 2000 ("The image data to be processed by the embodiment of the present invention is not only of a simple still image but also of a motion picture or animation in a form of successive still images, or the like" in paragraph 81, line 10; "A code sequence ... may preferably be any type of one distributed widely based on a standard like JPEG2000 (ISO/IEC FCD 15444-1), or Motion-JPEG2000 (ISO/IEC FCD 15444-3) ..." in paragraph 84, line 1), comprising: setting a reproduction condition in response to a user's operation ("the control unit 29 (*figure 7*) controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54" in paragraph 105, line 18, where #54 is the user's input reproduction condition); determining a reconfiguration method of the encoded data stream based on the set reproduction condition (as depicted in figure 7, the reconfiguration method: "includes a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46" in paragraph 103, line 12, to determine the reconfiguration method based on the reproduction condition #54); reconfiguring the encoded data stream (as depicted in figure 7, numeral 41 is the reconfiguration unit: "... 41 (*figure 7*) which creates a code sequence ..." in paragraph

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103, line 9) based on the determined reconfiguration method (figure 7, numeral 43, 44, 45, and 46); and

reproducing the moving image from the reconfigured encoded data stream (as depicted in figure 7, the reconfigured encoded data stream transmitted from #41 to #21 then decoded #24 and then displayed #53. "according to the embodiment of the present invention, it is possible to reproduce a smooth motion without frame omission.

Furthermore, it becomes also possible to search the contents by viewing a thumbnail motion picture" in paragraph 85, line 5).

Regarding claim 26, the reproduction condition set when setting the reproduction condition includes at least one of a display size, a display range, image quality, a color component, and a frame rate (discussed in claim 2).

Regarding claim 27, the display size included in the reproduction condition is adjusted in response to the user's operation for changing a window size in which the moving image is displayed in the step of setting the reproduction condition (discussed in claim 3).

Regarding claim 28, the display size included in the reproduction condition is changed in response to the user's operation for selecting a window in which the moving image is displayed in the step of setting the reproduction condition (discussed in claim 4).

Regarding claim 29, the display range included in the reproduction condition is changed in response to the user's operation for panning and tilting in the step of setting the reproduction condition (discussed in claim 5).

Regarding claim 30, the display range included in the reproduction condition is adjusted in response to the user's operation for zooming in the step of setting the reproduction condition (discussed in claim 6).

Regarding claim 31, the image quality and the frame rate in the reproduction condition is adjusted in response to the user's operation for adjusting a balance between the image quality and the frame rate in the step of setting the reproduction condition (discussed in claim 7).

Regarding claim 32, an article of manufacture having one or more recordable medium storing instructions which, when executed by a computer, cause the computer to perform a method of reproducing a moving image encoded into an encoded data stream in accordance with JPEG 2000 (discussed in claim 1) by:  
setting a reproduction condition in response to a user's operation ("the control unit 29 (*figure 7*) controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54" in paragraph 105, line 18, where #54 is the user's input reproduction condition);

determining a reconfiguration method of the encoded data stream based on the set reproduction condition (as depicted in figure 7, the reconfiguration method: "includes a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46" in paragraph 103, line 12, to determine the reconfiguration method based on the reproduction condition #54); and reconfiguring the encoded data stream based on the determined reconfiguration method (as depicted in figure 7, the encoded data stream # 41 is reconfigured based on the determined reconfiguration method #43, #44, #45, and #46).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Sirohey et al. (US 7,236,637 B2): transfer only appropriate decomposition level for the desired resolution at the client.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eueng-nan Yeh whose telephone number is 571-270-1586. The examiner can normally be reached on Monday-Friday 8AM-4:30PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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